



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,224	04/13/2004	Jess B. Pool	STL11631	4651

7590 09/25/2007  
Fellers, Snider, Blankenship,  
Bailey & Tippens, P.C.  
Suite 1700  
100 North Broadway  
Oklahoma City, OK 73102-8820

EXAMINER
----------

RENNER, CRAIG A

ART UNIT	PAPER NUMBER
----------	--------------

2627

MAIL DATE	DELIVERY MODE
-----------	---------------

09/25/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/823,224	POOL ET AL.	
	Examiner	Art Unit	
	Craig A. Renner	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 June 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 and 22-26 is/are pending in the application.
- 4a) Of the above claim(s) 8-18 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 19 and 22-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>13 April 2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Claims 12-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to one or more non-elected inventions/species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 13 November 2006.
2. Applicant's election without traverse of "Species I," upon which "Claims 1-7, 19, and 22-25" are said to be "readable," in the reply filed on 26 June 2007 is acknowledged. Accordingly, claims 8-11 and 26 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to one or more non-elected inventions/species, there being no allowable generic or linking claim.

### ***Information Disclosure Statement***

3. The information disclosure statement (IDS) submitted on 13 April 2004 is in compliance with the provisions of 37 CFR 1.97 and 37 CFR 1.98. Accordingly, the information disclosure statement has been considered by the examiner. Note that the document number for item AA has been corrected by the examiner.

***Drawings***

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include one or more following reference signs mentioned in the description. Note, for instance, “**100**” (disclosed as a “data storage system” or “disc drive” in lines 26 and 28 on page 2, line 29 on page 2 thru line 1 on page 3, and line 23 on page 3, for instance), “**107**” (disclosed as “discs” or “each disc” in lines 3, 5, 12, 12-13, and 15 on page 3, for instance), and “**536**” (disclosed as an “electrical connector” in lines 24 (twice) and 27-28 on page 6, lines 5, 8-9, 10-11, 13, and 17 on page 7, and line 18 on page 8, for instance). Note that the some of these pages have been amended in the amendment filed 13 November 2006 and the examiner’s line and page citations may no longer match exactly.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

**Specification**

5. The title of the invention *as presented in the amendment filed 13 November 2006* is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

6. The disclosure is objected to because of the following informalities:

a. In line 18 on page 5 (lines 5-6 of paragraph [0020] amended 13 November 2006), "conductive pins 338" should be changed to --conductive pins 388-- in order to be consistent with that shown in Fig. 3.

b. In lines 22-23 on page 5 (lines 9-10 of paragraph [0020] amended 13 November 2006), "conductive pin 338" should be changed to --conductive pin 388-- in order to be consistent with that shown in Fig. 3.

c. In line 23 on page 5 (line 10 of paragraph [0020] amended 13 November 2006), "conductor lead 348" should be changed to --connector lead 348-- in order to be consistent with the remainder of the disclosure.

d. In line 4 on page 7 (lines 10-11 of paragraph [0024] amended 13 November 2006), "conductor lead 548" should be changed to --connector lead 548-- in order to be consistent with the remainder of the disclosure.

Art Unit: 2627

e. In line 6 on page 8 (line 11 of paragraph [0027] amended 13 November 2006), "conductor lead 648" should be changed to --connector lead 648-- in order to be consistent with the remainder of the disclosure.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In lines 1-2 of claim 5, it is indefinite as to how the "electrical connector" can be "overmolded to the upper wall, the lower wall, and the intermediate wall" when the upper wall, the lower wall, and the intermediate wall are all defined to be components of the electrical connector in base claim 4 (i.e., "the electrical connector comprises a housing ... having an upper wall ..., an intermediate wall ..., and a lower wall"). That is, it is indefinite as to how the electrical connector can be overmolded to itself.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2627

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1, 19 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Strickler et al. (US 5,227,936).

With respect to claim 1, Strickler et al. (US 5,227,936) teaches a storage apparatus comprising an enclosure (includes 3, for instance); a printed circuit board fixed to the enclosure (lines 57-58 in column 2, for instance, i.e., “printed circuit boards provided on the bottom side of the support”); and an electrical connector (17) overmolded to the enclosure (lines 54-56 in column 2, for instance) and in electrical communication with the printed circuit board (lines 54-58 in column 2, for instance).

With respect to claim 19, Strickler et al. (US 5,227,936) teaches a storage apparatus comprising an enclosure (includes 3, for instance) supporting a printed circuit board (lines 57-58 in column 2, for instance, i.e., “printed circuit boards provided on the bottom side of the support”); and means (lines 54-58 in column 2, for instance, in at least an equivalent structural sense) for coupling an electrical connector (17) to the printed circuit board for operably engaging the printed circuit board and providing structural integrity to the electrical connector.

With respect to claim 22, Strickler et al. (US 5,227,936) teaches an electronic device comprising an enclosure (includes 3, for instance) and a printed circuit board (lines 57-58 in column 2, for instance) coupled with a connector (17), wherein the connector is attached to the enclosure with an overmold section (lines 54-56 in column

Art Unit: 2627

2, for instance). With respect to the intended use limitation appearing in lines 2-3 of claim 22, note that a recitation with respect to the manner in which a claimed apparatus (i.e., “electronic device”) is intended to be employed (i.e., “for electrically connecting ... to an external device”, for instance) does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations, *Ex parte Masham*, 2 USPQ2d 1647 (PTO BPAI 1987).

11. Claims 1, 3-5, 22, and 24-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Diel (US 5,500,779).

With respect to claims 1 and 3-5, Diel (US 5,500,779) teaches a storage apparatus (10) comprising an enclosure (includes 12, for instance); a printed circuit board (44, for instance) fixed to the enclosure; and an electrical connector (includes 48, for instance) overmolded to the enclosure and in electrical communication with the printed circuit board (as shown in FIGS. 1 and 3, for instance) [as per claim 1]; wherein the electrical connector comprises a plurality of connector leads (each 50) that are electrically coupled to contact pads (each 52) of the printed circuit board (as shown in FIGS. 1 and 3, for instance) [as per claim 3]; wherein the electrical connector comprises a housing (16) surrounding a plurality of conductive pins (each 50), the housing having an upper wall located above the conductive pins, an intermediate wall for supporting the conductive pins, and a lower wall located below the conductive pins (as shown in FIG. 3, for instance) [as per claim 4]; and wherein the electrical connector is overmolded to



Art Unit: 2627

the upper wall, the lower wall, and the intermediate wall (as shown in FIG. 3, for instance) [as per claim 5].

With respect to claims 22 and 24-25, Diel (US 5,500,779) teaches an electronic device (10) comprising an enclosure (includes 12, for instance) and a printed circuit board (44, for instance) coupled with a connector (includes 48, for instance), wherein the connector is attached to the enclosure with an overmold section (16, for instance) [as per claim 22]; wherein the printed circuit board compressingly engages against the connector making a solderless electrical connection (lines 7-10 in column 3, for instance) [as per claim 24]; and wherein the overmold section contactingly engages a housing (includes 34, 36 and 49, for instance) surrounding a plurality of conductive pins (each 50) of the connector (as shown in FIG. 3, for instance) [as per claim 25]. With respect to the intended use limitation appearing in lines 2-3 of claim 22, note that a recitation with respect to the manner in which a claimed apparatus (i.e., "electronic device") is intended to be employed (i.e., "for electrically connecting ... to an external device", for instance) does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. See *Ex parte Masham*, supra.

### ***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2627

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims 2 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strickler et al. (US 5,227,936).

Strickler et al. (US 5,227,936) teaches the storage apparatus/electronic device as detailed in paragraph 10, supra. Strickler et al. (US 5,227,936), however, remains silent as to the overmold material comprising a "polymer" as per claim 2, and as to the device further comprising a "fastener that compressingly engages the printed circuit board against the connector" as per claim 23.

Official notice is taken of the fact that polymer is a notoriously old and well known overmold material in the art. Official notice is also taken of the fact that a fastener compressingly engaging a printed circuit board against a connector is a notoriously old and well known connecting technique in the art. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the overmold material of Strickler et al. (US 5,227,936) comprise a polymer, and to have had the device of Strickler et al. (US 5,227,936) further comprise a fastener that compressingly engages the printed circuit board against the connector. The rationale is as follows:

Art Unit: 2627

One of ordinary skill in the art would have been motivated to have had the overmold material of Strickler et al. (US 5,227,936) comprise a polymer since such is a notoriously old and well known overmold material in the art, and since selecting a known material on the basis of its suitability for the intended use is within the level of ordinary skill in the art, *In re Leshin*, 125 USPQ 416 (CCPA 1960).

One of ordinary skill in the art would have been motivated to have had the device of Strickler et al. (US 5,227,936) further comprise a fastener that compressingly engages the printed circuit board against the connector since such is a notoriously old and well known connecting technique in the art, and since selecting a known connecting technique on the basis of its suitability for the intended use is considered to be within the level of ordinary skill in the art.

15. Claims 2, 6-7, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diel (US 5,500,779).

Diel (US 5,500,779) teaches the storage apparatus/electronic device as detailed in paragraph 11, *supra*, further wherein the contact pads compressingly engage against the connector leads forming a resilient electrical connection (as shown in FIGS. 1 and 3, for instance, also see lines 7-10 in column 3, for instance), and wherein the printed circuit board compressingly engages against the connector (as shown in FIGS. 1 and 3, for instance, also see lines 7-10 in column 3, for instance). Diel (US 5,500,779), however, remains silent as to the overmold material comprising a "polymer" as per claim

Art Unit: 2627

2, and as to the apparatus/device further comprising a printed circuit board "fastener" as per claim 23 or printed circuit board "fasteners" as per claims 6-7.

Official notice is taken of the fact that polymer is a notoriously old and well known overmold material in the art. Official notice is also taken of the fact that printed circuit board fasteners are notoriously old and well known in the art in the same field of endeavor for the purpose of enabling a printed circuit board reliable attachment. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the overmold material of Diel (US 5,500,779) comprise a polymer, and to have had the apparatus/device of Diel (US 5,500,779) further comprise a printed circuit board fastener or printed circuit board fasteners. The rationale is as follows:

One of ordinary skill in the art would have been motivated to have had the overmold material of Diel (US 5,500,779) comprise a polymer since such is a notoriously old and well known overmold material in the art, and since selecting a known material on the basis of its suitability for the intended use is within the level of ordinary skill in the art. See *In re Leshin*, supra.

One of ordinary skill in the art would have been motivated to have had the apparatus/device of Diel (US 5,500,779) further comprise a printed circuit board fastener or printed circuit board fasteners since such enables a printed circuit board reliable attachment.

***Pertinent Prior Art***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. This includes Jones, Jr. et al. (US 5,991,165), Ogawa et al. (US 6,219,909), Rent (US 6,430,000), Kasetty et al. (US 2002/0141107), and Hayakawa et al. (US 2003/0016468), which each individually teaches a storage apparatus/electronic device with a connector or connector component molded or otherwise integrally formed with an enclosure of the storage apparatus/electronic device.

***Conclusion***

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A. Renner whose telephone number is (571) 272-7580. The examiner can normally be reached on Tuesday-Friday 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2627

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Craig A. Renner  
Primary Examiner  
Art Unit 2627

CAR